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REMARKS

Applicants respectfully request reconsideration of this Patent Application, particularly in view of the above Amendment and the following remarks. No additional fee is required for this Amendment as the number of independent claims is not more than three, and the total number of claims is not more than originally filed.

Request for Telephone Interview

Applicants kindly request the Examiner to contact the undersigned at (847) 490-1400 to schedule a telephone interview, to discuss the merits of this Patent Application.

Amendment to the Claims

Claim 1 has been amended to include limitations of Claims 25 and 31, and to recite that the heating element(s) is arranged upstream of the transfer medium in a transport direction of the substrate.

Claims 9 and 16 have been canceled in view of amended Claim 1.

Claims 8, 10, 14, 15, 17-19, 24, 27, and 29-32 have been amended to correct dependencies, provide proper antecedent bases, and/or for clarity.

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New Claims 33-35 have been added.

Support for this Amendment can be found throughout the Specification and figures, such as at page 4, first paragraph, and at page 9, last paragraph. No new matter has been added to the claims by this Amendment.

Claim Objections

Applicants believe the above Amendment responds to and removes all claim objections.

Claim Rejections - 35 U.S.C. §102

The rejection of Claims 1, 4-7, 20-23, 25, and 32 under 35 U.S.C. §102(b) as anticipated by Thompson et al., U.S. Patent 5,640,659, is respectfully traversed. Claim 1 has been amended to include limitations of Claims 25 and 31, thereby rendering this rejection moot.

Furthermore, Applicants respectfully note that the Thompson et al. Patent teaches heating a transfer roll 24 with radiant heat from lamp 30. In Applicants' claimed invention, the transfer medium is not heated, but cooled, to provide the recited lower temperature in the transfer zone. The Thompson et al.

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Patent thus does not provide or suggest Applicants' invention of Claim 1 or new Claim 34.

Claim Rejections - 35 U.S.C. §103

The rejection of Claims 2, 3, and 19 under 35 U.S.C. §103(a) as being unpatentable over Thompson et al., U.S. Patent 5,640,659, is respectfully traversed. These dependent claims are patentable for at least the same reasons as discussed herein for independent Claims 1 and 34.

The rejection of Claims 8, 9, and 24 under 35 U.S.C. §103(a) as being unpatentable over Thompson et al., U.S. Patent 5,640,659, in view of Ogawa, U.S. Patent Publication 2003/0007055, is respectfully traversed.

The Thompson et al. Patent teaches heating a transfer roll and the toner thereon. The Ogawa Patent teaches heaters 46 and 47 for also heating a print medium. Together, these references teach heating a toner, which is the opposite of Applicants' recited heating of the substrate upstream from the transfer zone and cooling the transfer medium which carries the toner. The combination does not provide or suggest all claim limitations.

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Furthermore, the invention of the Ogawa Patent is directed to a technique of printing an image on a transfer film F with a sublimable dye ink by an ink jet printing method, and carrying out a thermal pressing process on the transfer film F and a printing medium C. The Ogawa Patent is quite distinct from the present invention, which is directed to an electronic printing of a rigid substance (i.e., inkjet vs. toner). The preheating plate 70 of the Ogawa Patent is used for heating to reduce the water content of the ink prior to the thermal processing step. The Ogawa Patent is not relevant to the preheating of the substrate according to the present invention.

The rejection of Claims 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over Thompson et al., U.S. Patent 5,640,659, in view of Ogawa, U.S. Patent Publication 2003/0007055, and further in view of Wyble, U.S. Patent 6,322,187, is respectfully traversed. These dependent claims are patentable for at least the same reasons as discussed herein for independent Claim 1.

The rejection of Claim 12 under 35 U.S.C. §103(a) as being unpatentable over Thompson et al., U.S. Patent 5,640,659, in view of Ogawa, U.S. Patent Publication 2003/0007055, and further in view of Wyble, U.S. Patent 6,322,187, and Spychalla et al., U.S. Patent 5,908,000, is respectfully traversed. The

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Spychalla et al. Patent discloses a sensor for use in heat-curing applied ink. The combination does not provide or suggest Applicants' sensor-controlled upstream heating of a substrate and cooling of the transfer medium to maintain a lower transfer medium/toner temperature in the transfer zone.

The rejection of Claims 13 and 14 under 35 U.S.C. §103(a) as being unpatentable over Thompson et al., U.S. Patent 5,640,659, in view of Ogawa, U.S. Patent Publication 2003/0007055, and further in view of Wyble, U.S. Patent 6,322,187, Spychalla et al., U.S. Patent 5,908,000, and Moslehi et al., U.S. Patent 5,156,461, is respectfully traversed.

The Office Action states that the Moslehi et al. Patent teaches a plurality of temperature sensors arranged over the entire print width and each associated with a heating element. The Moslehi et al. Patent teaches using sensors for forming semiconductor wafers. There is no readily apparent need or suggestion for this complex sensor device, and heating zones, to be used in the relatively simple ink curing process of the Spychalla et al. Patent. Favorable reconsideration and withdrawal of this rejection are respectfully requested.

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The rejections of Claim 15-18 under 35 U.S.C. §103(a) as being unpatentable over Thompson et al., U.S. Patent 5,640,659, in view of Ogawa, U.S. Patent Publication 2003/0007055, Wyble, U.S. Patent 6,322,187, Spychalla et al., U.S. Patent 5,908,000, and Moslehi et al., U.S. Patent 5,156,461, and further in view of Kurz, U.S. Patent 5,375,518 and/or Watanabe, U.S. Patent Publication 2002/0110391, are respectfully traversed. These dependent claims are patentable for at least the same reasons as discussed herein for independent Claim 1.

The rejections of Claim 26-31 under 35 U.S.C. §103(a) as being unpatentable over Thompson et al., U.S. Patent 5,640,659, in view of Wyble, U.S. Patent 6,322,187, Spychalla et al., U.S. Patent 5,908,000, Moslehi et al., U.S. Patent 5,156,461, Kurz, U.S. Patent 5,375,518 and/or Watanabe, U.S. Patent Publication 2002/0110391, are respectfully traversed. These dependent claims are patentable for at least the same reasons as discussed herein for independent Claim 1. Comments on the prior art combinations are stated above, and not repeated for sake of brevity.

New Claims

The prior art does not disclose or suggest the limitations of new Claims 33-35. Regarding new Claims 33 and 35, as discussed above, the applied prior art references seek to heat the toner, either before or after application. None of the applied prior art references disclose or suggest cooling the toner, as in Applicants' invention of Claims 33 and 35.

Regarding Claim 34, as discussed above, the applied prior art references do not disclose or suggest upstream heating of the substrate coupled with cooling of the transfer medium for the toner. The recited sensor arranged between the heating element and the transfer medium further differentiates the "upstream" nature of the heating arrangement from the toner heating of the prior art references.

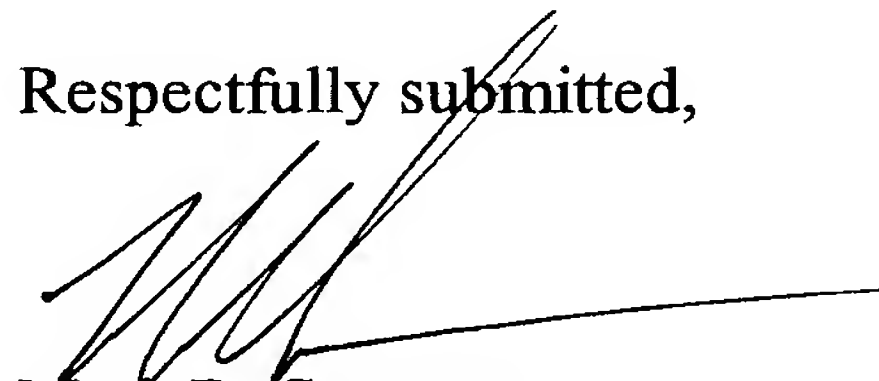
Conclusion

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants have not addressed or resolved in this response, the undersigned attorney again requests a telephone interview with the Examiner.

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Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully request early allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Mark D. Swanson', with a long horizontal line extending to the right.

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